

Advanced Computers & Digital Media Design

2020-2021

Grades 11-12

Prerequisite(s): Intro to IT

& Computer Hardware & System Support

Course Description

Semester 1 MS Office

** Dual-Enrollment (4 credit) Course MCC CRC 125

This half of the class is a hands-on course designed to allow students to work with the Microsoft Office Professional Suite. The course is designed for students to understand the various features and tools in each application; in addition to students viewing the applications as a workgroup. The goal is for students to transcend point-and-click skills and ideally to understand how to problem-solve using the software. Hands-on, practice problems are a must.

Semester 2 Digital Media

This second half of the class provides an essential foundation for the student interested in interactive and digital media with a focus on web development and web design. Through the study of digital and interactive media and its application in information technology, students will analyze and assess current and emerging technologies, while designing and coding to create multimedia projects for an audience based on the needs of the client

Course Units/Objectives

This course is broken into two semesters with two units in each semester.

SEMESTER 1 MS OFFICE:

** Dual-Enrollment (4 credit) Course MCC CRC 125

Unit 1 - MS Word: Word Processing Proficiency & MS PowerPoint: Presentation Software Proficiency

Unit 2- MS Excel: Spreadsheet Proficiency & MS Access: Database Basics

SEMESTER 2 DIGITAL MEDIA:

Unit 3: Digital Media

Unit 4: Digital Media Design



SEMESTER 1 MS OFFICE - DUAL ENROLLMENT MCC CRC 125

UA MS Office is the most widely used tool for documenting and organizing information, delivering presentations, as well as processing data in office environments across the globe; due to its usability, accessibility and adaptability.

Unit 1 - MS Word: Word Processing Proficiency/MS PowerPoint: Presentation Software Proficiency

UNIT 1 - WORD PROCESSING UNDERSTANDINGS

U1 A word processor is a computer application used for the composition, editing, formatting, and printing of text or writing, based documents; Microsoft Word is the most popular word processing program.

U2 Nearly every profession in the world uses some type of word processing software; understanding how, when, why and where to use this application is a critical skill in today's digital world.

U3: Many post-secondary training programs and classes require information to be "word" processed; knowing how to use the tools in this application will save time and allow for greater productivity.

Skills	Knowledge
Creating a variety of documents	❖ Microsoft Office Basics
Navigating through a document, creating ways to navigate through a document	Common features Microsoft Office 2016Compatibility between programs
3. Formatting text	Common Keyboard Shortcuts
Customizing options and views for documents	 Microsoft Word Ribbon Functions Home Ribbon: Clipboard, Font,
5. Printing and saving documents	Paragraph, Styles, and Editing
6. Creating and formatting tables	Insert Ribbons: Tables, Illustrations, Add-ins, Media, Comments, Header
7. Create and manage references	& Footer, and Text
 Inserting, modifying references: footnotes, endnotes, citations figure and table captions, 	Design Ribbons: Document Formatting and Page Background
9. Inserting/updating a table of	Layout Ribbons:Page Setup, Paragraph, and Arrange



- contents/cover page
- 10. Insert and format graphic elements
- 11. Applying artistic effects to images, graphics and text
- 12. Setup views: multiple pages, page layout, web page, rulers, gridlines
- 13. Creating mail merge documents/fields/databases for mass production
- 14. Sharing edit, commenting on a document
- 15. Output of a document to: printer, PDF, email

- References Ribbon: Table of Contents, Footnotes, Citations & Bibliography, Captions, Index, and Table of Authorities
- Mailings Ribbon: Create, Start Mail Merge, Write & Insert Fields, Preview, Results, and Finish
- Review Ribbon: Proofing, Comments, Tracking, Changes
- View Ribbon: Views, Show, Rulers, Gridlines, Web Pages

UNIT 1 - WORD PROCESSING PERFORMANCE TASK:

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task? Students are working in the Human Resources Department for Sturgeon Point Productions, a Video/Film Production Company. The department is responsible for several initiatives involving internships and continued education for employees.

Goal: As the assistant to the Human Resources Director, you are responsible for executing a variety of initiatives for the employees of Sturgeon Point Productions. Your job description states that you need to be highly computer literate with capability in email, MS Office and related business and communication tools, demonstrate strong written and verbal communication skills, while working under pressure and meeting deadlines.

Role: You are the assistant to the Director of Human Resources for Sturgeon Point Productions

Audience: Employees inside of the company as well as future employees

Situation: As the assistant to the Director of Human Resources you are responsible for sending out a variety of information to the employees in the company. Your MS Word skills will come in handy as you are asked to create flyers, reports, memos and letters for a variety of initiatives including: *Sturgeon Point - internship Flyer, Internship Guide, Employee Course Offering Flyer, training emails, etc.*

Product: Three-word processing documents that provide important information for interns and employees of the company; while showing off the MS Word skills you have learned.



Unit 1 - MS Word: Word Processing Proficiency & MS PowerPoint: Presentation Software Proficiency

UNIT 1 - PRESENTATION SOFTWARE- UNDERSTANDINGS

U1 Slide presentations are now the standard media for information transfer in most fields.

U2 Information should be limited and brief in an effective presentation and material must be organized in a way that lends itself to smooth transitions between slides.

U3 Using charts, graphs, animations, and other visuals adds an important dimension to a presentation.

U4 Timing and rehearsing are important aspects of creating a slide presentation.

Skills	Knowledge
Create a new presentation	Ribbon FunctionsHome Ribbon: Clipboard, Font,
 Identify parts of the PPT Window Edit a presentation: slide size, inserting 	Paragraph, Styles, and Editing Insert Ribbons: Tables, Pictures, shapes,
new/existing slides, using the outline view, deleting & moving slides	smart art, charts, Comments, Header & Footer, and Word Art, Videos, Audio
Format a presentation: themes, fonts, text alignment, bullets, symbols, objects	Design Ribbons: Themes, Variants, Slide Size, Formatting Background
Use Slide Sorter View: delete, move, select slides	Transitions Ribbon:To slide, Effect Options, Timing
6. Apply slide transitions: theme, timing	Animations Ribbon: Preview, Animation, Effect Options, Advanced Animation,
Create and format SmartArt graphics: inserting, formatting, adding shapes	Timing
8. Customizing slide backgrounds and themes: color, fonts, style, fills	Slide Show Ribbon: Starting, Setup, Monitors
 Animating a slide show: applying entrances and exits, reordering animations, setting 	Review Ribbon: Proofing, Comments, Tracking, Changes
animate start/duration/exit	View Ribbon: Presentation Views, Master Views, Show, Zoom, Color,
Inserting Video: size, alignment, playback options	Window
11. Creating/modifying tables & charts to a slide	



UNIT 1 - POWERPOINT/PRESENTATION PERFORMANCE TASK:

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task? Students are working in the Human Resources Department for Sensation Park Entertainment Group. The department is responsible for setting up training for incoming summer staff that includes a presentation that will take place during the training.

Goal: As the assistant to the Human Resources Director, you are responsible for executing a variety of initiatives for the employees of Sensation Park Entertainment Group. Your job description states that you need to be highly computer literate with capability in email, MS Office and related business and communication tools, demonstrate strong written and verbal communication skills, while working under pressure and meeting deadlines.

Role: You are the assistant to the Director of Human Resources for Sensation Park Entertainment Group

Audience: Employees inside of the company as well as future employees

Situation: As the assistant to the Director of Human Resources you are responsible for sending out a variety of information to the employees in the company. Your MS PowerPoint skills will come in handy as you have been asked to create a safety training presentation for summer workers.

Product: Several slides that cover the safety training information for workers in the park.



Unit 2- MS Excel: Spreadsheet Proficiency & MS Access: Database Basics

UNIT 2 - SPREADSHEET SOFTWARE- UNDERSTANDINGS

U1 A spreadsheet is a computer application that can be used as a tool for storing and analyzing small to very large quantities of text and numerical data

U2 A spreadsheet has the same or more power than a calculator performing basic mathematics to complex statistics; the difference being the addition of tools for turning that data into graphs, charts, or multi layered tables.

U3 The ability to import and export spreadsheets means that nearly every profession in the world uses some type of spreadsheet software; understanding how, when, why and where to use this application is a critical skill in today's digital world.

U4 There are career fields where proficiency with spreadsheets is necessary for employment.

Skills	Knowledge
 Creating , Savings and Navigating an spreadsheet 	❖ Ribbon Functions➤ Home Ribbon: Clipboard, Font,
2. Entering and editing data in a worksheet	Alignment, Number, Styles, Cells and Editing(Filter/Sort -Find/Replace)
Constructing and copying formulas for math operations	Insert Ribbons: Tables, Illustrations, Add-ins, Charts, Sparklines, Filters, Text,
4. Formatting cells: merge & center, cell styles and themes, deleting and adding columns and rows, wrapping text	Symbols Page Layout Ribbons:Themes, Page Setup, Scale to Fit, Sheet options,
5. Charting data and using charting tools	Arrange
Printing a worksheet or section of a worksheet	> Formulas Ribbon: Functions
 Printing a worksheet to display formulas, headings/footers, date, time, tabs 	 Data Ribbon: Sort & Filter, Data Tools (Consolidate) Review Ribbon: Proofing, Comments,
	Tracking, Changes View Ribbon: Workbook Views, Show,
	Zoom, Window



UNIT 2 - SPREADSHEET PERFORMANCE TASK

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task? Students are working in the Finance Department for the City of Pacifica Bay. The department is responsible for several initiatives involving the finances for the city.

Goal: As the assistant to the Finance Director, you are responsible for executing a variety of initiatives for tracking the finances of the City of Pacifica Bay. Your job description states that you need to be highly computer literate with capability in email, MS Office and related business and communication tools, demonstrate strong written and verbal communication skills, while working under pressure and meeting deadlines.

Role: You are the assistant to the Director of Finance for the City of Pacifica Bay

Audience: City Council representatives, Mayor's Office, Finance Director

Situation: As the assistant to the Director of Finance, you are responsible for creating a variety of financial documents for your boss, the mayor and the City Council. Your MS Excel skills will come in handy as you are asked to create financial documents for the city including: *City Parks Revenue Report, Housing Permit Forecasts, Projected Revenue Statement and a Five-Year forecast for Street Maintenance and Repair.*

Product: Five Excel spreadsheets that provide important information on the finances of a variety of areas of the City of Pacifica Bay.

Unit 2- MS Excel: Spreadsheet Proficiency & MS Access: Database Basics

UNIT 2 - DATABASE SOFTWARE- UNDERSTANDINGS

U1 A database software computer application is an information management tool that helps you store; information that you can go back (reference), analysis and or create reports on based off of queries

U2 Access is set up to allow users to work with information even if the user is not a database expert making it easier to track, report and share information with others.

U3 Microsoft Access and Excel are very similar yet very different in the way data is entered, stored, handled and reported.

U4 There are career fields where proficiency with databases is necessary for employment.



Skills	Knowledge
Create Database from Template or Create a Blank Database	Database File: is a file which stores the entire database.
Create a Table from Design View or Datasheet View:	 Datatypes - properties of the field: text, number, date, etc. Tables: an object which stores data in Row
3. Format Tables: <i>Rename Columns, Add Column</i>	& Column format to store data. ➤ A Table is usually related to other tables in the database file.
4. Save a table	Each column must have Unique name
5. Use Table Dialog box for each Field enter: Field Name, Data Type and Description	Tables have a Primary Key
6. Add a Primary Key	Queries answer a question by selecting and sorting and filtering data based on search
Switch views, between the datasheet (spreadsheet view) and the design view	criteria. ➤ Queries show a selection of data based on criteria (limitations) you
8. Create a form using: Form Wizard & Form	provide. ➤ Queries can pull from one or more
9. Add/Edit data using a form	related Tables and other Queries. Types of Query can be SELECT,
10. Add a record to a form	INSERT, UPDATE, DELETE.
11. Running a report from a database	 Form is a database object that you can use to create a user interface for a database application. Forms help you to display live data from the table. It mainly used to ease the process of data entry or
	editing. Report is an object in desktop databases
	primarily used for formatting, calculating, printing, and summarizing selected data.
	 Macros are mini computer programming constructs. They allow users to search, move to another record, or run a formula.
	MS Access common data types Short Text, Long Text, Number, Date/Time, Currency, Auto Number, Yes/No, Attachment, OLE objects, Hyperlink, Calculated



UNIT 2 - ACCESS PERFORMANCE TASK

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task? Students are working for the City of Pacifica Bay's library. The library is looking to convert its book inventory system for cards to an online system using Access

Goal: As the assistant to the Information Management Director, you are responsible for executing a variety of database initiatives for tracking data for the City of Pacifica Bay. Your job description states that you need to be highly computer literate with capability in email, MS Office and related business and communication tools, demonstrate strong written and verbal communication skills, while working under pressure and meeting deadlines.

Role: You are the assistant to the Information Management Director for the City of Pacifica Bay

Audience: Information Management Director, Head Librarian

Situation: As the assistant to the Information Management Director, you are responsible for creating a variety of databases for your boss. Your MS Access skills will come in handy as you are asked to create an online library database that will keep track of: *Books Card Catalog Number (Primary Key) Authors Name, Book Title, Publisher, Copyright Year, Cover Type, Genre, Purchase Price, Current Value, Condition, Location*

Product: One data table, one form for librarians to use to enter the data, one test "inventory" report to check the system for bugs.

SEMESTER 2 - DIGITAL MEDIA

UNIT 3: DIGITAL MEDIA

Digital media is a combination of art, creativity, and IT technical skill to design everything from video game animations to company websites. Because this field is so large and broad Digital Media careers often focus on a single area of expertise. Because there are endless applications for digital media products, the demand for experts in these areas continues to grow.

UNIT 3: UNDERSTANDINGS

- **U1** Digital media is visual media and how it is used to communicate to end users.
- **U2**. Digital Media requires more than coding skills and what the other skills are depends on the message being designed.
- **U3** User experience (UX) and user interface (UI) are important in the process of developing media pieces and what goes into determining how users will interact with the end product
- **U4** Because of the endless applications for digital media this IT career field offers many opportunities to combine other talents and interests into a career in the field.



Skills	Knowledge
Describe how they are able to get specific web pages to their computers	 Fundamentals- Web side of the Internet ➢ Internet Protocols, URL's, Network
Explain that the internet is a network of networks; identify equity and access issues	Media, Routing/Packets ❖ Definition/Vocabulary terms: ➤ Browser Software, HTML, Web
Identify what a browser is, its purpose and the types	Page, Website, Web Design, Web Development Uniform Resource Locator: domains and
4. Explain what a URL and recognize the parts of the URL address	paths
Describing and defining Digital Media	♦ Definition of Digital Media
 Understand the knowledge, skills, and abilities required for a range of career options in Digital Media 	 Digital Media's relationship to society Business, safety, and legal issues in digital media Digital Media Software: Bootstrap, Visual
 Understand the changing nature of the industry and learn to adapt to the changes (e.g. social media); 	Studios, Word Press, Angular, Adobe Dreamweaver, Sketch ❖ Digital Media Projects ➤ Definition, examples
 Demonstrating media literacy skills as well as an understanding of ethics and security related to the field; 	 DesignProject Planning/Project Management: ➤ Strategy and planning ➤ Project management
5. Understand the concepts and apply production methods to create:	Information architecture and user interface design
a. digital graphicsb. digital animationsc. digital audio	 Graphic design for the web Web technology Site production
d. digital video	Web Development
e. web-based digital media	❖ Web Development Process:
6. Comparing & Contrasting Types of Media	Design, Build, Publish
7. Web Development/Design Soft Skills	❖ Website Builds:➤ HTML Forms
a. Creative thinking	Content Management Systems
b. Expression of thoughts and ideas	➤ Website Builders
c. Creating visual representations	 Publishing Digital domains hosting
d. Editing/proofreading	domains, hosting,Design Constraints
e. Organizing logical arguments	Design constraints



- f. Brainstorming
- g. Analyzing audiences
- h. Utilizing reference materials
- i. identify and apply design principles.
- identify and apply concepts of typography, color theory and layout.
- 8. Demonstrate the fundamentals of project management;
 - a. Work in teams
 - Give and accept constructive criticism;
 - c. Communicate messages
 - d. Work with criteria and constraints to complete a project.
 - e. identify and apply design principles.
 - f. identify and apply concepts of typography, color theory and layout.

- Cross-browser, mobile device compatibility
- Web Design
- Physical appearance
 - Layouts, Color Schemes, Content, Graphics, Text, Features, Toolbars, Pages, Interactive Media
- Organization
 - Branding, Accessibility, intuitivenessuser friendly, Visually Appealing

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task?

Website project management is the use of project management to deliver website projects, from new site builds to redesigns and migrations. Project management is a management practice whereby a project is broken down into tasks, which are worked on collaboratively within a project management platform and process to meet a specific goal and timeline. Working on a Digital Design project requires both soft skills and technical skills from everyone on the design team in order for the project to be a success.

Goal: As a team you are to develop a Web Development/Design Plan to present to a potential client that includes the following .

- Project management Plan
- Information architecture and user interface design
- Graphic design/Sketch of Site
- Determination of Web technologies to be used

Core web team roles

Information architect: Content expert (content coordination, researcher)

Web project manager: Quality assurance/ Usability

Web graphic designer/Media specialist (photography, illustration, audiovisual, Adobe Flash)

Site editor/copywriter: creating, modifying and editing content

Audience: Client looking for a Web Development/Design company that best understands their digital vision (needs) and the usability needs of users visiting the site.



Situation Web development projects can be a huge success or a huge failure; depending on how effectively they are managed. Proper project management can keep things running smoothly, while a lack of planning can be a recipe for an unhappy client

Possible Products

- Product Landing Page
- Tribute Page/Quote Page/Fan page
- Custom Google Maps page
- Weather Forecast page
- Weekly (Topic) Newsletter
- Scholar Choice

UNIT 4: DIGITAL MEDIA DESIGN:

This unit introduces students to basic web design using HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets). Throughout this unit scholars will be introduced to planning and designing effective web pages; implementing web pages by writing HTML and CSS code; enhancing web pages with the use of page layout techniques, text formatting, graphics, images, and multimedia; and producing a functional, multi-page website.

UNIT 4: UNDERSTANDINGS

U1 Why Learning to code on a digital media platform such as HTML, CSS or WYSIWYG editors is a necessary foundational skill for anyone looking for a career in Digital Media.

Skills	Knowledge
 Describe how they are able to get specific web pages to their computers Explain that the internet is a network of networks; identify equity and access issues Identify what a browser is, its purpose and the types Explain what a URL and recognize the parts of the URL address 	 ❖ Fundamentals- Web side of the Internet ➢ Internet Protocols, URL's, Network Media, Routing/Packets ❖ Definition/Vocabulary terms: ➢ Browser Software, HTML, Web Page, Website, Web Design, Web Development ❖ Uniform Resource Locator: domains and paths
Identify what web design is and articulate the difference between web design and development	 Web Development: use of programming languages to build the code that makes a website work ➢ front-end and back-end Web Design: everything involved with



	the visual aesthetics and usability of a website
 Identify the purpose, importance and applications of HTML Identify the various parts of an HTML page Create their first simple web page 	 ❖ HTML - Hypertext Markup Language: language for building web pages ➤ Tags, angle brackets, hyperlinks, closing tags, content, meta data ❖ HTML Page Structure: HTML, head-body, title
 Apply formatting tags in order to modify the appearance of text Add and utilize hyperlinks on their webpages Add and utilize hyperlinks on their webpages 	 HTML Formatting: paragraphs, line breaks, headings, bold, italic HTML Adding Links hyperlinks/bookmarks, tag, structure (name="value"), https- secure websites HTML Images Image tag , src= source, Width, height, pixels, Alt attribute-text display
 Add lists to their web pages Incorporate different kinds of lists to their web pages Create tables in web pages Explain the benefits of including tables on web pages 	 HTML Lists- organize information on a site
Apply HTML styling to make pages visually appealing and unique. CSS - CASCADING CSS	 ♣ HTML Styling ➤ Style attributes: color, background color, font-size G STYLE SHEETS
Describe how CSS adds styling to HTML pages	❖ Introduction to CSS➤ Definition, use, content vs. style



 Define/code a CSS rule using declarations Modify the CSS style of a page Use CSS tag selectors to select all elements of the same kind and give them all the same style 	 ➢ Basic code structure of CSS ❖ CSS Rules ➢ Properties & Values ➢ General Format ➢ Style tags/tag selectors ➢ Style location/metadata
Use CSS Class selectors to apply CSS styling to all HTML units that share a specified class	 CSS Classes Class Attribute General Format/Rules Multiple Classes
Use CSS Selectors by ID to select a single element to format on a webpage	 ❖ CSS Select by ID ➤ Single Element styling ➤ ID attribute (uniqueness)
Write a CSS rule that selects and assigns the ID	ID attribute/uniquenessOverrides class & tag
3. Give each image an ID and assign the ID	
Define what a cascade is in CSS	* CSS Cascade
2. Explain the order of precedence of CSS rules	Definition ofFactors: importance, specificity,
3. Explain why CSS allows rules to cascade	order of rules ➤ !important modifier
4. Apply the order of precedence of CSS rules to achieve the desired styling of specific elements on the webpage	

PERFORMANCE TASK:

PERFORMANCE ASSESSMENT How will students demonstrate their understanding (meaning-making and transfer) through a complex performance task? Scholars will take the skills and knowledge they have gained around web design and development to design and then code their own portfolio website.

Goal: This project is meant to be a challenge that touches multiple concepts from the unit to produce a digital artifact. In this PT, students will be developing their own website. This website will be a portfolio website showcasing their work



Role: Student in a Web Design course

Audience: Self, Teacher, Parent/Guardian, and one additional adult

Situation: Homepages are a great way to show off your digital projects to anyone, anywhere using the Web as your platform

Product Website from scratch, hosted at your own custom domain. Must include:

- A profile image
- Your name
- A short bio about yourself. Who are you? What do you like to do? Make a list of at least 5 things.
- What you would like to learn in this Web Design course?
- Add a link to one of your favorite web pages that you've made so far. To do this:
- Go to the exercise that you want to link to
- Click on the "See HTML in new window" button
- This is your webpage that you made for that exercise. Copy the URL for this webpage and link to it from your homepage.
- Add links to more than one exercise if you like!
- Anything else you want to add! This is your site, make it yours!